# *Museum News*

**THE TOLEDO MUSEUM OF ART**

FOUNDED BY EDWARD DRUMMOND LIBBEY

AUTUMN 1965

# CONSERVATION OF ART

The care and preservation of works of art both at home and in the Museum is the subject of this *Museum News*.

Seldom have works of art remained clean, unimpaired, or accident-free during their entire existence. The varnish on paintings darkens and yellows over the centuries, marble sculpture becomes soiled through dozens of moves, silver tarnishes easily even in normal atmosphere. These conditions must be corrected.

The Museum calls upon experts and specialists for the restoration and conservation in all cases except for those of "first aid" nature when staff members can correct the problem. The following pages illustrate various methods of treatment which have been used on paintings, sculpture, and metalwork to preserve them for the enjoyment of future generations. Also included is a section on simple home methods of care and conservation that may help you to clean and preserve your works of art.

*Otto Wittmann, Director*


*Museum News*

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AUTUMN 1965 *New Series: Volume 8, Number 3*

EDITOR: Otto Wittmann
ASSISTANT EDITOR: Millard F. Rogers, Jr.


COVER: *HANS HOLBEIN THE YOUNGER (1497-1543). Catherine Howard. Detail, partly cleaned. About 1540. Oil on panel. 28⅜ x 19½ inches. Gift of Edward Drummond Libbey, 1926.*

BACK COVER: *Detail of hands, Catherine Howard.*

*HANS HOLBEIN THE YOUNGER (1497-1543). German. Catherine Howard. About 1540. Oil on panel. 28⅜ x 19½ inches. Gift of Edward Drummond Libbey, 1926. (Left) Partly cleaned; (right) cleaning completed. The blurring effect of overpainting and aged discolored varnish is dramatically shown here (see cover for details). The cleaning not only restored the crispness of Holbein's precise technique, but also brought back the sense of space between sitter and background and recovered the original deep blue of the background and the gold of the inscription, both of which had been overpainted.*

# WHAT IS CONSERVATION?

To many of us the word "conservation" evokes images of lush forests and streams abounding in trout. These images are valid manifestations of a desire to preserve and maintain our natural resources. Economics alone would not bring up such pleasurable pictures — we would then see lumber yards or frozen food counters — but a sense of beauty does. So it is not only a desire to house and feed ourselves but a need for visual and spiritual satisfaction that leads us to spend large sums to keep our woods green and our waters fresh.

In the world of art the same term is also used to denote the preservation of the material, visual, and spiritual values of pictures, sculptures, furniture and so forth.

A fine Dutch landscape painting can become as "polluted" as a river by neglect, mistreatment and unintelligent care.

When a work of art enters a museum it can gain an advantage that natural resources cannot have — a controlled environment, one in which the humidity is stabilized, the light controlled, and the heat regulated for the optimum conditions for survival.

Creating these conditions is the first step in conservation. The second step is to assure the physical well-being of the object. When it enters a museum a work of art is examined in a way not unlike the manner in which a person is given a medical check-up. Paintings are checked to see if the canvasses or wood panels on which they are painted are sound; bronzes are inspected for a decay called "bronze disease," furniture is looked over for evidence of woodworm. These are but a few of the ailments common to works of art that the museum curator and conservator must be able to diagnose.

After noting condition defects, the object is looked *at*, to determine if its present appearance resembles its original aspect. Dirty, aged varnish on a picture will turn blue sky a greenish brown; tiny flecks of iron in the paper of a print or drawing may produce grey and brown spots called "foxing". The decoration on metalwork and ceramics can be distorted or concealed by surface deposits. The trained observer, knowing how time and wear affect the varied materials of which art is made, can often detect the beauty that is not skin deep.

The curator and conservator together bring specialized knowledge in many areas to bear on their problems. They ask themselves such questions as these: Is this color or that contour consistent with Rembrandt's style or is it a later overpainting? Did Chippendale use pale woods in his furniture, or has this desk faded from long exposure to sunlight? Did Riccio "antique" his Renaissance bronze statuettes with a bronze varnish or has some art dealer used shoe polish to cover up a worn surface? Will this solvent remove discolored varnish with-

*HANS HOLBEIN THE YOUNGER, Catherine Howard. Detail of hands.*

out harming the paint underneath? Will ammonia damage gilding if used to clean off deposits on it? Will a bleach weaken the paper of the etching that has turned brown? A knowledge of art history, the techniques of art, chemistry and physics extended by using the microscope, x-ray, ultra-violet and infrared light and other complex apparatus help to provide the answers to these and other questions.

By the time the examination is over quite a mass of clinical data has accumulated about the work of art. Next, decisions based on these data must be made about how to preserve the work and restore its original appearance to the fullest possible extent. The methods employed are many and the "case histories" which follow this introduction will describe a few of them.

The principles on which curator and conservator base their decisions of necessity involve judgments formed by individual training, experience and personal opinion. There are, however, some fairly standard maxims which they keep in mind. The first is to plan the job so that no essential steps will be omitted. Another is that all materials used should be inert so that they will not cause future damage. They should also be susceptible of easy removal without harm to the object so that conservators of the future will not have their problems complicated by work done in the present. Finally, no restoration, that is, additions to fill out missing areas or parts, should cover elements of the original design.

Museum conservation is more than a scientific method for preservation. It is also an art requiring knowledge, skill, and taste.

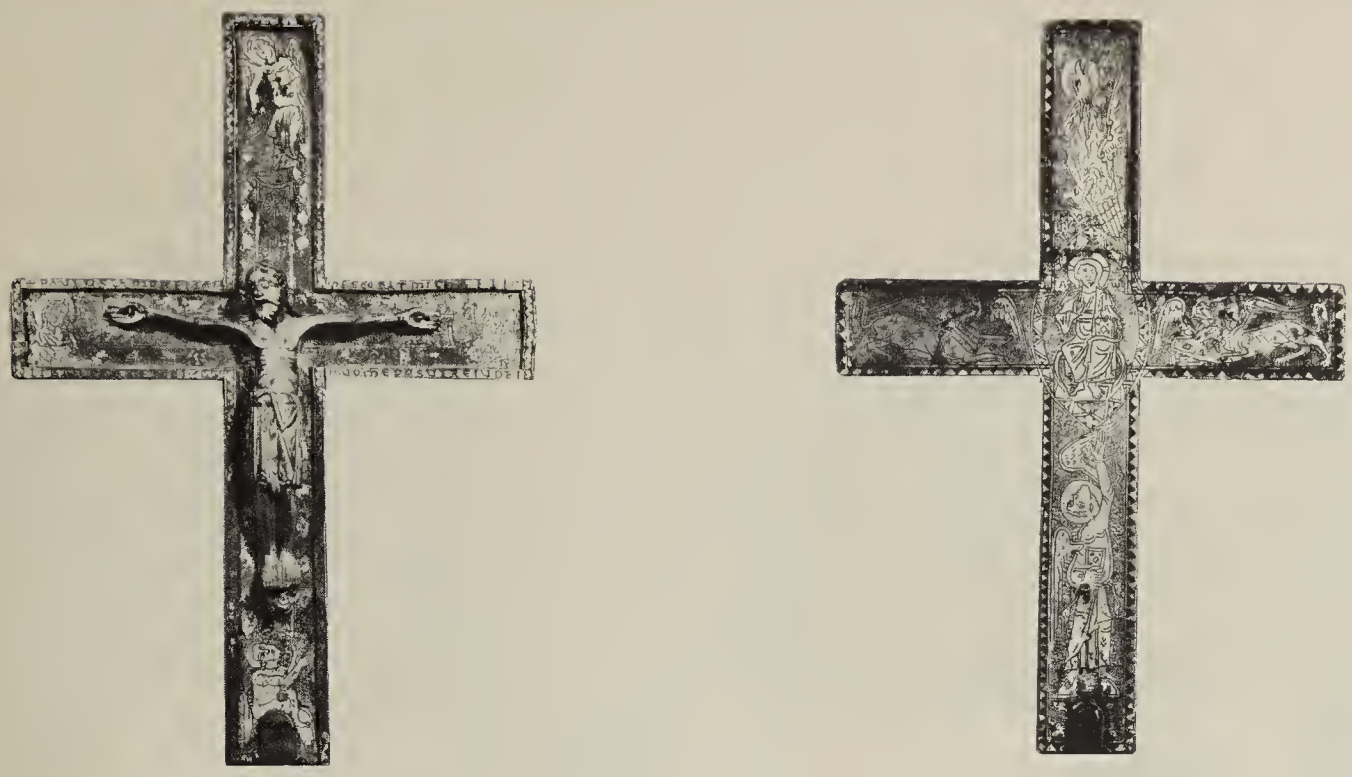
*A final touch is given to a marble bust by the French sculptor, Guillaume Dupré (about 1576-1643), before placing it on exhibition.*

*EUSTACHE LE SUEUR (1616-1655). French. The Annunciation. About 1650. Oil on canvas. 61½ x 49½ inches. Gift of Edward Drummond Libbey, 1952. (Left) Before treatment; (right) after treatment.*

Often, canvas becomes brittle and weak with age. To keep the picture from literally falling apart, it may be necessary to "line" it with a new canvas attached to the back of the old. Sometimes the old canvas has deteriorated to such an extent that it must be removed completely from the paint it supported and a new canvas put in its place. This process is called a "transfer."

In the case of the Le Sueur what had first appeared to be a routine lining and cleaning job offered some surprises. Preliminary tests showed that the painting had already been transferred and was supported by three layers of canvas. The complexity of this laminated structure and the imperfect adhesion of old hide glue spelled trouble, so a completely new transfer was needed. To accomplish this, the painting was supported from the front by mounting it temporarily face down on a stiff board while the three layers of canvas were carefully peeled and scraped off the back and a new canvas applied using a synthetic wax adhesive.

This work is invisible to the visitor, but the face of the painting, too, was changed considerably during the cleaning. Overpainting had hardened contours and exaggerated color contrasts. The greatest surprise of all was the disappearance of the dove in the upper part of the picture and the stronger emergence of the rays of light from above. This change back to the original state tightened the whole composition and gave renewed purpose to the archangel's pointing finger. The dove turned out to have been an addition, presumably by someone who wanted a more sentimental version of the Annunciation than did Le Sueur.



*Processional Cross. Attributed to Tirolus Iafarinus. North Italian. About 1130. Gilt bronze and copper. 14½ x 9⅞ inches. Museum Purchase. 49.16. (Above) Before cleaning; (below) after cleaning.*

Occasionally, routine cleaning will not only brighten the appearance of an object, but will also shed light on the way it was made. Examination of this Romanesque gilt metal cross indicated that its form and decoration would be much clearer after removing the accreted grime of centuries. That this result was achieved is amply demonstrated by the accompanying illustrations. Two interesting facts were discovered during cleaning (with diluted ammonia and alcohol). First, that a misreading of the inscription running across the arms of the cross was due to grime collected in the crevice surrounding an attaching rivet; and second, that while the figure of Christ was cast in bronze, the cross to which it was attached was made of copper. This second discovery increases our knowledge of the practices of medieval metalworkers.

*Roman Parade Helmet. Mid first century A.D. Silver, with gold-foil covered ornaments. Ht. 12⅜ inches. Gift of Edward Drummond Libbey. 58.45. (Left) Before repair and cleaning; (right) after repair and cleaning.*

When acquired, this Roman silver parade helmet was heavily tarnished and rather heavily dented. It had the appearance of a battered piece of blued steel. In addition, the hinge of one of the cheekpieces was broken. While obviously a piece of military equipment, the helmet gave little impression of the splendor of a high Roman official's parade dress.

It was decided to repair and clean it. A new strip of silver was soldered on to reconstruct the damaged hinge and the cheekpiece reattached. The worst dents were hammered or pressed out using soft wood blocks to prevent scratching. The heavy tarnish would not at first respond to silver polish and had to be reduced chemically before the surface could be lightly buffed. The ornaments of heavy gold foil were brightened with rinses of ammonia and alcohol and finally a coat of synthetic water-clear lacquer was applied to ensure the permanence of the cleaning. The surface of the inside of the helmet was carefully left to preserve the traces of age and burial confirming the authenticity of the object.

Oil paintings are rarely painted directly on canvas or wood panels. Normally a layer called a "ground" is applied first to provide a smooth surface for the paint. It is often tinted a reddish brown. Gainsborough's *Shepherd Boy* was painted in the 1750's on a canvas prepared with such a ground. Over the centuries unsightly cracks and losses (some of them repainted) and discolored varnish obscured the deft touch and luminous colors of the artist. As in the case of the Le Sueur *Annunciation* treatment turned out to be more than routine cleaning and relining. A structural defect was discovered in which, due to poor adhesion, there was separation within the ground over large areas of the picture.

To remedy this weakness, the painting had to be mounted face down on a stiff board in order to get at the back safely. Gainsborough's original canvas was moistened and removed in strips. With it came much of the lower ground coat, proving the insecurity of the picture. Once a new coat of ground had been applied, the task became a routine one of lining with new canvas and cleaning. In its present state the picture should be sound for another two hundred years.

*THOMAS GAINSBOROUGH (1727-1788). English. The Shepherd Boy. About 1750-1755. Oil on canvas. 32¾ x 25⅞ inches. Gift of Arthur J. Secor, 1934. (Left) Before treatment; (right) after treatment.*

*St. Blaise. Silver, partly gilt. German. About 1400. Ht. 10¼ inches. Gift of Florence Scott Libbey. 62.68. (Left) Before cleaning; (right) after cleaning.*

When received, this figure looked like dull brass and wore a black face. The characteristic attributes of crozier and horn indicated that we had a statuette of St. Blaise. Since the saint was also a bishop, it was clear that the conical hat was a later replacement for the bishop's mitre. We found that the hat screwed off easily so it was decided to leave the bishop bareheaded. Cleaning the figure with ammonia, water, and jeweler's rouge brought back the original richness of the gilded silver and emphasized its contrast with the bare silver of the expressive face. To prevent further tarnish, the piece was coated with a synthetic non-yellowing lacquer.

The dull, discolored aspect of this medieval enamel provoked the decision to clean it. The results far exceeded expectations. Not only was much obscured gilding and rich color revealed but several new features came to light.

Before cleaning, several holes had been noted in the bottom segment containing the inscription. Cleaning not only gave us the first correct reading of the inscription in over a century, but showed that the holes had been deliberately drilled, presumably for the attachment of a plaque (later lost) to cover the original inscription.

Thus, it was not too surprising to discover gilding and the edge of an enamel field under the shields bearing arms of chevrons and fleurs-de-lys. These were carefully removed to reveal the arms of the original owner or donor, the Presbyter Jacobus, according to the inscription. The original arms have a most unusual technical feature in that they incorporate silver inlay (for heraldic accuracy) in the gilt copper matrix of the enamelled plaque. To judge from the 15th century style of the added shields, the original arms of Presbyter Jacobus had been hidden from sight for about 500 years.

*Morse. Champlevé enamel with silver inlay, gilt copper appliques. French. Mid 14th century. $6\frac{11}{16} \times 6\frac{5}{8}$ inches. Gift of Edward Drummond Libbey, 1950. 50.248. (Left) Before cleaning and restoration; (right) after cleaning and restoration.*

This painting of the Virgin of the Annunciation was once part of the altarpiece of the Dominican church in Frankfurt, Germany. It was painted by Hans Holbein the Elder (father of the famous portrait painter) in 1500-1501. At some time after the parts of the altarpiece were dispersed, our section was overpainted to make it resemble a "portrait" of the Virgin instead of part of a narrative sequence. The panel was badly warped, distorting the appearance of the picture and promising eventual danger to the paint. It was therefore decided to remove the disfiguring overpaint and see what could be done about the warped panel.

The cleaning proceeded in a normal way and revealed the original brilliance of color concealed by old, darkened varnish as well as revealing a landscape with parts of figures in the background and a gold halo around the Virgin's head.

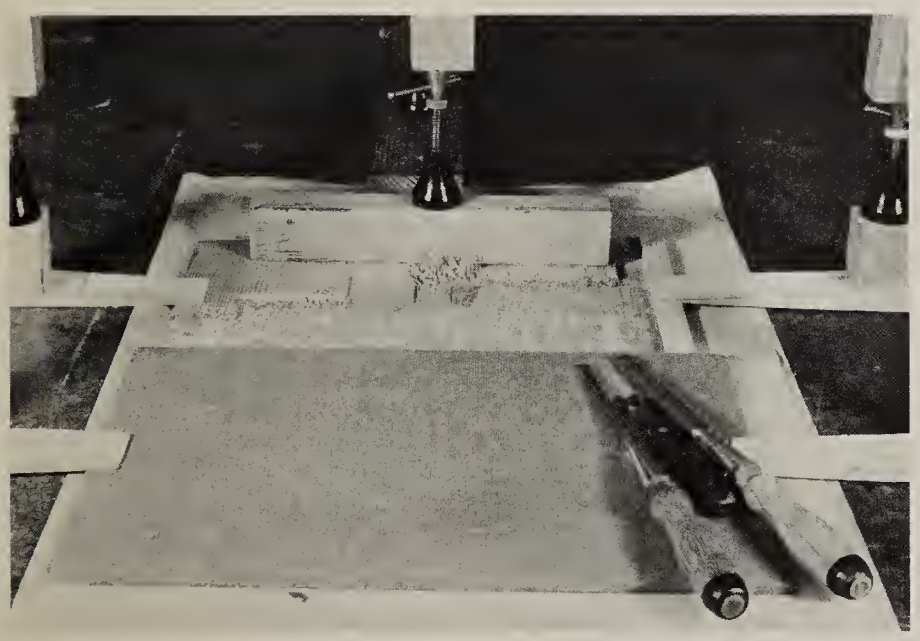
The real surprise proved to be the panel on which the picture presumably was painted. The usual practice in Germany in Holbein's time was to paint on a thin hardwood panel prepared with a thin ground. The warped panel of the picture turned out to be a fairly thick soft spruce with a layer of linen as well as a thick ground between the paint and the panel. It was clear that the picture had been transferred to a different panel, probably in the 19th century. To avoid further warping, it was decided to remove the spruce panel and replace it with a more stable support. The picture was covered with a reinforced facing, placed face down and the spruce panel, linen, and modern ground carefully chiselled and scraped away. Then a new panel of sheet cork and balsa wood blocks was built up using a wax-resin adhesive. The wax sealed the back of the picture against swelling and shrinking. Balsa wood was used because it is not only light, but warps very little.

Finally, the facing was removed and the surface retouched and varnished. The painting now has not only gained much of its original appearance but, owing to the new panel, has its future survival assured.

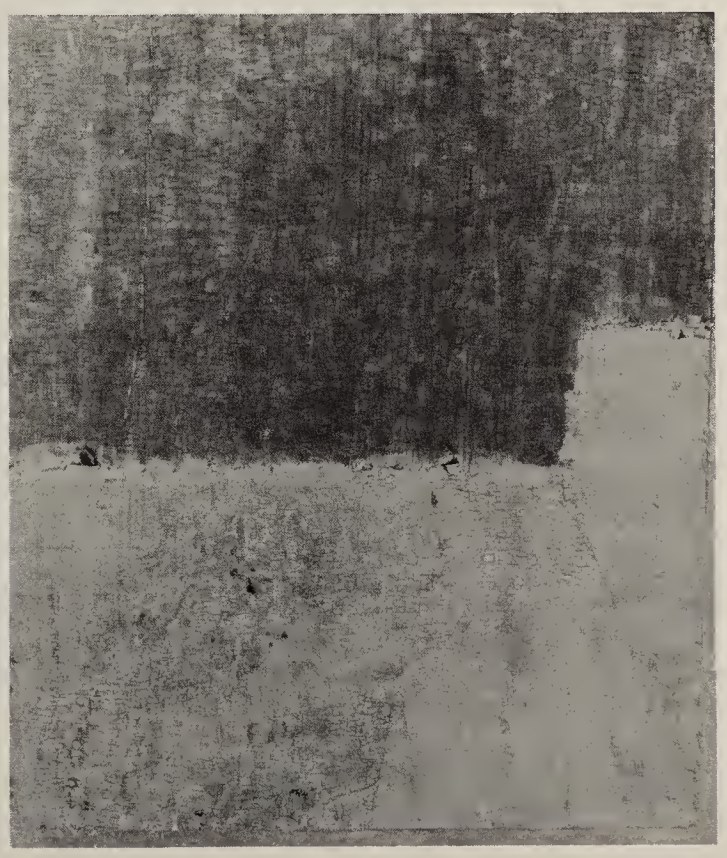
*HANS HOLBEIN THE ELDER (1460/70-1524). German. Head of the Virgin (from an Annunciation). About 1501. Oil on panel. 17¼ x 14⅜ inches. Gift of Edward Drummond Libbey, 1951. Photographed before treatment under raking light. Note the severe warp of the panel apparent at the top and bottom.*

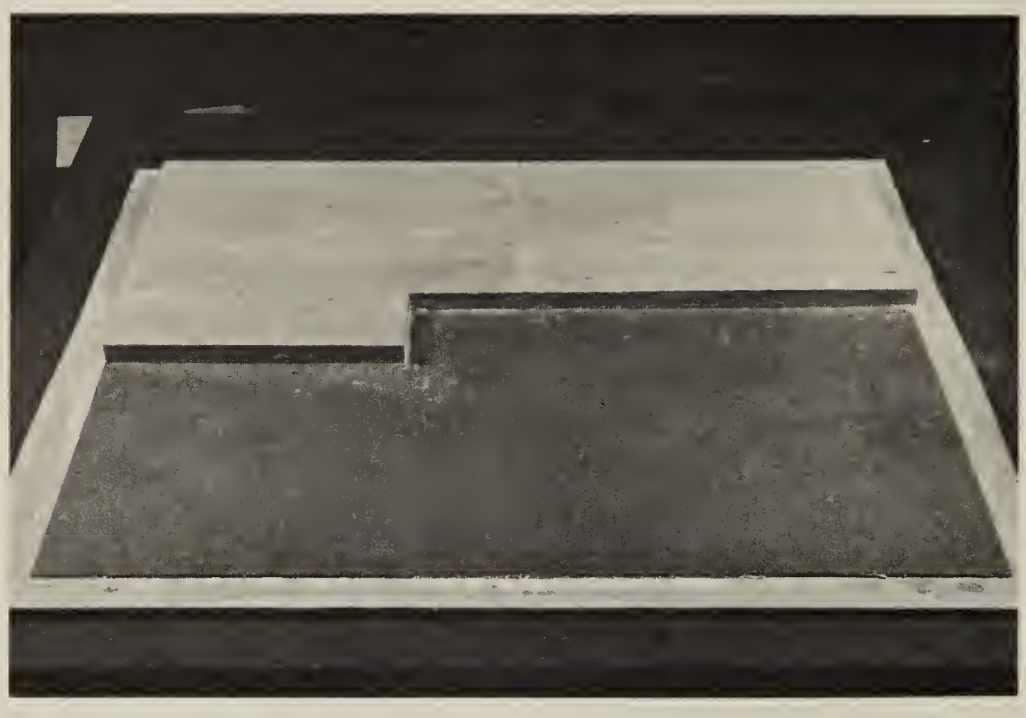
*Partly cleaned.*

*Removal of the warped modern panel (painting face down).*



*Removal of modern canvas and ground. Observe how the reverse image of the painting shows faintly through the original ground.*



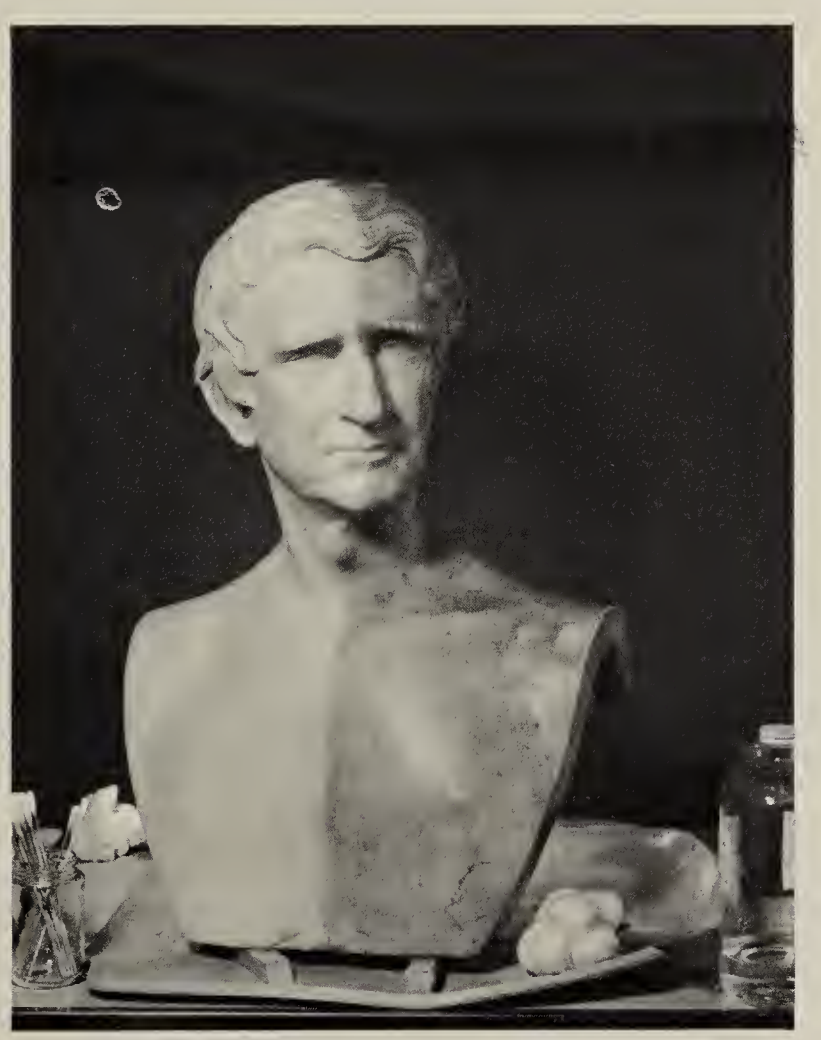


*New cork and balsa wood panel partly completed.*

*Treatment completed.*

American neo-classical sculptors of the mid-19th century admired the white purity of Carrara marble. Later changes in taste apparently consigned many of their works in this stone to the basement for, when received, this bust was gray with oily grime and spattered with thousands of drops of aluminum radiator paint.

Washing with a mild detergent and water removed most of the grime, but the paint was firmly attached to the open-pored stone (see hair of cleaned portion above ear). Using a small, specially shaped metal tool, the drops of paint were removed one by one without scratching the delicate surface of the marble. Since the aluminum paint was made with an oil medium each drop left a small brown oil stain in the porous marble, giving the bust the appearance of a severe case of chickenpox. These stains were removed by dissolving them in acetone applied with cotton swabs. Selective bleaching, a final washing to remove solvent residues, and rinsing in distilled water completed the task of making the sculptor's ideal once more apparent.

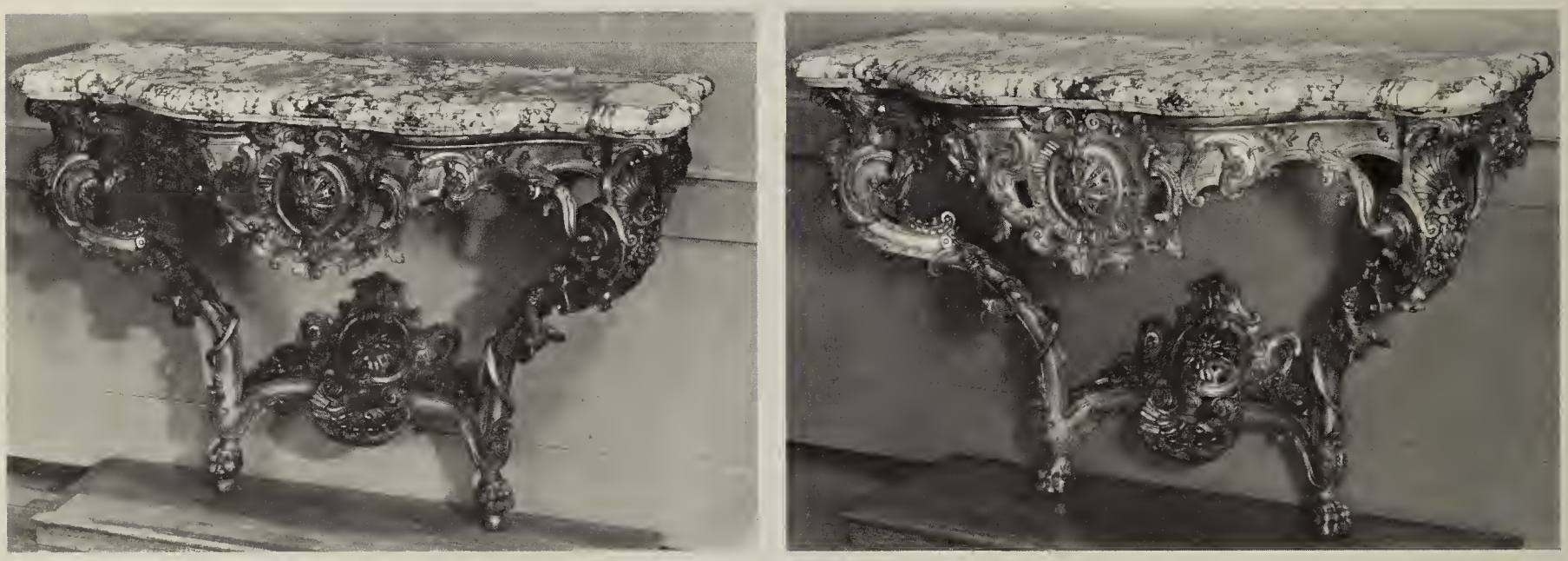


*CHAUNCEY BRADLEY IVES (1810-1894). American. William Henry Seward (1801-1872). 1857. Marble. Ht. 24½ inches. Gift of Mr. and Mrs. Roy Rike, 64.56. Bust shown one-half cleaned.*

French royal furniture of the time of Louis XIV was sometimes made of gilded silver, but the expense of Louis' extensive military campaigns necessitated melting it down for ready cash. Furniture made late in his reign and in the following Regency strove to achieve an opulent effect with more modest means.

When acquired, this gilt wood console had a dull, brownish appearance that was at variance with its crisp intricate forms suggestive of a desire to emulate metal. Cleaning tests showed that the piece had been deliberately toned down with a pigmented varnish to make it look more "antique." After many hours of painstaking cleaning with solvents on cotton swabs, the original gilding, burnished to resemble the surface of metal furniture, came once more to light. The awkwardly small balls supporting the paw feet were found to be of a different wood from the original and attached with modern screws, apparently to make the piece match the height of another console for a fashionable drawing room. With the added balls removed the piece once again gained its original appearance of firmness and strength.

Such deliberate ageing and alteration is quite common on furniture that has been made to look needlessly old and worn in order to appeal to tastes which equate signs of apparent age with quality. Fortunately, little of the artificial antiquing on the console did actual damage to its original form or delicate gilded surface.



*Console. Style of the Regency. 1715-1725. French. Carved and gilded oak, marble top. Ht. 34; length 50½ inches. Gift of Florence Scott Libbey. 58.09. (Left) Before cleaning and removal of added feet; (right) cleaned and feet removed.*

*Restoration on a pair of covered vases. Dutch (Delft). Early 18th century. Tin-glazed, polychromed earthenware. Ht. 26⅛ inches. Gift of Florence Scott Libbey. 61.34, 61.35.*

This unusually large pair of Delft jars was acquired with the polygonal fluted feet badly chipped—not unexpected considering their awkward bulk and considerable weight. Surprisingly, the lids were virtually intact. Otherwise, the jars were in perfect condition so that the damage to the feet was very distracting.

It was a fairly simple matter to build up the losses to the feet in dental plaster since several original angles were intact, and the fluting could be continued from where it was chipped off.

The creation of coloring and surface that resembled the original ceramic and glaze was rather more difficult. First, the skim milk, bluish white color of the background had to be duplicated by tinting all the restored parts which were then sealed with acrylic lacquer. Then the orange-red and cobalt blue, typical of Delft glaze painting, had to be carefully matched and the original patterns duplicated without looking mechanical. Most difficult was imparting in paint the illusion of a glaze that has run and blurred slightly in firing. For this, the fluidity of watercolor using stable pigments was found better than oils. Finally, coat after coat of acrylic lacquer was applied to give the effect of transparent depth found in Delft tin glazes.

*GIOVANNI ANTONIO GUARDI (1698-1760). Italian. The Holy Family. Oil on canvas. 45½ x 37⅞ inches. Gift of Edward Drummond Libbey, 1926. (Left) Before treatment; (right) after treatment.*

The arbitrary changes made to paintings by restorers of a half century and more ago, are often inexplicable by modern scholars who consider that the artists' original intent should not be altered. In terms of condition, this Guardi painting of the Holy Family presented no problems. It had been recently relined and was in no danger of deterioration. But the surface looked unnecessarily dark and the paint strangely opaque for an 18th century Italian painting. Tests revealed that the picture was coated with a heavily tinted varnish and that the original paint was extensively covered with a much later overpainting of oil and casein paint. Much of the overpainting exaggerated and hardened the spontaneous, flickering brushwork characteristic of Guardi's style. Probably because of its casein content, the overpainting was extremely difficult to remove and responded only to solvents that would damage the original paint. Hence, much of it had to be scraped off with scalpels.

The considerable expenditure of minutely detailed labor was well forth the effort, for the painting now reveals its original delicacy of brushwork. A comparison of the illustrations will also show how the former "restorer" added and suppressed elements which substantially altered the character of the painting as a whole.

*St. Catherine. About 1500-1525. Flemish. Limestone. Ht. 34¾ inches. Gift of Mrs. C. Lockhart McKelvy. 47.17. (Left) Before cleaning and reduction of incorrect repairs; (right) cleaned and correctly restored.*

Before acquisition, this limestone figure had suffered damage which largely obscured its original grace. Dirt and grime had produced spotty stains and areas of chipping showed glaringly pale. But worst of all, the head had once been broken off and the old repair reconstructed missing parts improperly. In addition, the filling material used to make good missing bits between head and shoulders was a mixture of poorly set plaster and a very hard fine cement that had blackened. The result was a generally patchy appearance and confused contours.

After tests, it was found that a combination of alcohol and turpentine reduced most of the stains appreciably. Those impossible to remove as well as fresh stone revealed by chipping, were toned in with paint.

The old repair proved very troublesome. The poor grade plaster was easy to file off, but the cement was of such tenacity that damage to original parts would have resulted from its removal. The only course was to grind away the high parts with a carborundum wheel on a flexible shaft driven by an electric drill. Once the excess of old repair was taken away, the job was fairly straightforward. Research produced a photograph of a female figure of the same style and period which guided the reconstruction of missing elements in a good grade of dental plaster. These were tinted to match the stone and sealed to prevent the accumulation of dirt. Finally, the sculpture was able to be viewed as a whole without the distracting effects of dirt and damage.

# CARE AND CONSERVATION IN THE HOME

*PAINTINGS*

Oil paintings are amazingly durable. A few simple cautions in their care will better preserve them for you and future generations. As paintings normally hang on the wall, one should choose a location that not only enhances the painting but avoids heat and radiators. Excess hanging wire should not remain twisted or knotted at the back of the canvas, as a puncture may result in the canvas. Picture hooks and hanging wire should be checked regularly to see how secure they are. Gently vacuuming the back side of your canvas with a soft brush attachment will remove dust accumulations, pins, et cetera, and help keep the painted surface safe and clean.

Anything other than superficial cleaning of your painting should be left to an expert, but there are ways that you can clean (at your own risk!) annoying surface grime from your picture. Support the underside of your painting so that pressure will not crack the painted surface or the canvas. To remove surface dirt and dust on top of the varnished layer, conservators recommend use of a white cream furniture polish or equal parts spirits of turpentine and petroleum naptha. Clean a small inconspicuous portion with the mixture on absorbent cotton swabs to test the cleaning power of your solution. Use a rolling motion with the swabs—do not scrub. Wipe this area dry with clean swabs. Avoid cleaning a painting heavily cracked or with chips of paint missing from the canvas for the cleaner may enter the cracks and loosen the paint.

When water vapor gets beneath the varnished surface, a milky appearance, called "bloom" generally occurs. This may be removed by gently rubbing the milky area with a furniture paste wax and cotton swabs until the bloom disappears. Revarnishing a clean painting with a good grade of spirit varnish will protect the clean surface and help its preservation. Covering the back of your painting on canvas is important, for it prevents dirt from accumulating there and protects against punctures. A piece of cardboard should be cut to cover completely the stretcher and exposed canvas, attaching it with screws into the stretcher. If you have serious doubts about the care and preservation techniques you wish to undertake yourself it is best to get professional advice before proceeding. A helpful primer to study prior to undertaking any cleaning or work on your paintings is: Caroline Keck, *How to Take Care of Your Pictures*, Brooklyn Museum, Brooklyn, N. Y., 1954.

*PRINTS AND DRAWINGS*

Original prints, drawings, and watercolors, and any art form on paper, need special care. Too often, prints and drawings are treated with less care than that given to oil paintings. Yet with a minimum of attention they are equally hardy.

If you exhibit your print or drawing on the wall, it must be framed beneath glass and matted so that the print surface does not touch the glass. Most framers can provide mat board made from rags, rather than from wood pulp,

and one should insist on rag mat board if avoidance of bad chemical effects, staining, and burning is desired. A print should be attached to a mount board having the same outside measurements as your mat. To attach the print to the board, hinges of tissue paper should be made, joining the hinges and the print to the board with water-soluble flour paste. Hingeing may be done from the top or sides of the print, hingeing on the reverse side of the paper, of course. Do not use any form of gum tape for hingeing, and never permit a print to be attached solidly on all sides to its mount. Lastly, paper products and some watercolor pigments are susceptible to fading by sunlight and fluorescent light and should never be placed where they receive direct sunlight. Certain rays deteriorate the paper on which the print or drawing was executed causing a darkened or burned appearance.

*GLASS*

Although it appears extremely fragile and tenuous, glass is very strong and permanent with normal use. Its care is relatively easy, for it requires only dusting and an occasional washing to keep it bright and sparkling. Broken glass may be repaired by joining the fragments with Duco cement. Repairs of this sort are not permanent and may be removed with thinner if desired. The use of epoxy should be left to professional repairers, as this glue, once hardened, cannot be removed. Cut or undecorated glass may be washed in warm water with a little detergent, wiping it dry with a lint-free cloth. Scouring powders or pads should never be used to clean glass. If the glass is stained, there are commercial preparations available in hardware stores to remove these deposits. Decorated, painted, or stained glass should be washed only after determining whether or not the decoration is water-soluble. On no account should abrasive substances be used on decorated or painted glass. An antique dealer once removed the gilding from a glass vase before selling to a collector, thinking that the simple washing would remove only accumulated dirt. The value dropped considerably after the gilding washed away. As the vase was a commemorative piece, it was valuable mainly because of the gilded inscription.

*FURNITURE*

While major repairs to your furniture and reupholstering are usually left to a professional, much can be done by the collector to preserve antiques and fine pieces in the home. Dusting furniture with a soft cloth and brushes (for those hard to reach crevices) prior to waxing is wise. Waxing is a necessary maintenance requirement. A good grade of paste wax applied and polished by hand with a soft cloth protects wood surfaces from scratching and marring. It also seals the surface against water marks and other stains. A mixture of equal parts of turpentine, boiled linseed oil, and white vinegar rubbed into the wood until dry, will rejuvenate cloudy varnished surfaces. This process requires a great deal of rubbing; a buff on an electric tool is helpful. Grandma's fragile rocking chair with its creaky joints probably needs little more than reglueing to make it secure and solid. A liquid hide glue or white glue, obtain-

able in any hardware store, is best and easy to use. Glued surfaces should always be clamped or held under pressure until dry. A number of paint removers are on the market, and those that rinse off with water are best and easiest to use. There are several good books on furniture repair and refinishing; an especially practical one is: George Grotz, *The Furniture Doctor*, Doubleday & Co., New York, 1962.

*PEWTER, SILVER AND MARBLE*

Whether pewter should be kept bright and shining is largely a matter of taste, for some collectors prefer the dull finish and others the polished finish. Silver, on the other hand, when it is tarnished is not attractive. Exposure to gases in the air, handling, and food tarnish metals. Tarnish removal is best done with a good commercial polish, following the directions carefully. Special polish made for pewter and polishes for other specific metals are available. If you wish to protect the surface of silver against future tarnishings, a light coat of clear lacquer may be brushed over the clean surface. When dry, the silver object is sealed against tarnishing. Lacquered silver should not be used, only admired. Never use scouring powders, steel wool, or other coarse abrasives for cleaning silver or other metals. A badly scratched or scarred surface could result. The best way to maintain polish on silver is to wash and dry it immediately after use, storing it in a drawer lined with anti-tarnish cloth.

Marble table tops and sculpture may become soiled or grimy because of handling, accumulated dust, or paint inadvertently dribbled on the piece when the living room was painted. A brush will remove dust; and warm water, a bristle brush and a little detergent plus your energetic scrubbing) may be used on a soiled surface, rinsing with clear water. Cotton swabs dipped in paint remover and rubbed over paint spots generally remove these problems. For some stains, a liquid bleach applied (mixed one-to-one with water), rubbed on, then rinsed, may remove them.

An artist generally applied a surface coloring or darkening agent to his bronze sculpture, and this patina should be carefully preserved — not removed by polishing or cleaning.

*Removal of paint and stains from the Ives' Bust of Seward.*

# THE TOLEDO MUSEUM OF ART

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## MUSEUM HOURS

9:00 A.M. to 5:00 P.M. Tuesdays through Saturdays

1:00 P.M. to 5:00 P.M. Sundays, Mondays and Holidays

*THE TOLEDO MUSEUM OF ART*

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